REMARKS

Claims 42-51 are pending upon entry of the above amendments. Claims 46, 49 and 50 have been amended herein.

Information Disclosure Statement

The Information Disclosure Statement previously filed on October 22, 2003 has been corrected to cite U.S. patent application publications by applicant and publication date and is resubmitted herewith under 37 CFR §1.97 (c) (2) with the appropriate fee. Applicant respectfully requests that the Examiner consider the references cited in this IDS.

Specification/Informalities

The specification has been corrected herein to address issues identified by the Examiner with regards to title and embedded hyperlinks. Applicants have reviewed the specification and believe that trademarks have been properly used and identified throughout.

Rejection under 35 U.S.C. §101

Claims 42-51 are rejected under 35 U.S.C.§101. The Examiner alleges that the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility. Applicant respectfully traverses this rejection.

Under 35 U.S.C. §101, an assertion of a utility that is specific, substantial and credible is required. Applicant has asserted such a utility for the claimed invention in the specification. On page 44, lines 9-12, the specification teaches:

> "Epidermal Growth Factor-like protein of the invention, or fragments thereof, may further be useful in diagnostic applications, wherein the presence or amount of the nucleic acid or the protein are to be assessed."

In Example 3 beginning at page 162 of the specification, the expression of genes of the invention were assessed quantitatively using microtiter plates containing RNA samples from a

variety of normal and pathology-derived cells, cell lines and tissues by real time quantitative PCR (RTQ PCR). Results for NOV 5, Epidermal Growth Factor-like protein, nucleic acid SEQ ID NO:11, encoding polypeptide SEQ ID NO:12, are found in Example 3, Section E, pages 203-209. More specifically, Panel CNS neurodegeneration v1.0 is described on page 174 and NOV5 expression in tissues in this panel are presented in Table 30 at pages 204-205 and summarized on page 207-208. Greater expression of NOV5 was detected in the temporal cortex of Alzheimer's disease patients compared to normal samples.

One of skill in the art, having read the specification, would therefore know to detect and compare the amount of expression of the nucleotide SEQ ID NO:11 in samples of Alzheimer's and normal temporal cortex tissues, by using, e.g. RTQ-PCR methods as described in the specification to differentiate diseased tissues from normal tissues.

The utility described above is specific and substantial. Applicant has not suggested that NOV5 be used in a general undefined way or for diagnosing an unspecified disease. The specification teaches that the nucleic acid encoding the polypeptide of SEQ ID NO:12 may be used as a specific target for detecting expression, particularly temporal cortex tissue to differentiate normal tissue from Alzheimer's disease afflicted tissue. Furthermore, the specification teaches that not any nucleic acid but specifically NOV5 may be used for this purpose. Since the applicant has made an assertion that the claimed invention is useful for a particular purpose, and such assertion would be considered credible by a person of ordinary skill in the art, a rejection based on lack of utility is not proper. Applicants respectfully request the rejection be withdrawn.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 42-51, are rejected under 35 U.S.C. §112. first paragraph as the Examiner contends that the claimed subject matter is not supported by either a specific and substantial asserted utility or a s well-established utility and one skilled in the art clearly would not know how to use the invention

Applicant respectfully disagrees. As discussed above, the specification clearly describes how to use the claimed invention and provides at least one asserted specific, substantial and credible utility. Applicant respectfully requests that the rejection be withdrawn.

Rejections under 35 U.S.C. § 112, second paragraph

Claim 46 and 48-50 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 46 and 50 are rejected for insufficient antecedent basis for "said nucleic acid molecule" and "the nucleic acid molecule". Applicants have amended claims 46 and 50 as suggested by the Examiner.

Claim 48 is allegedly indefinite for the recitation of "mature form of the polypeptide". Applicant disagrees. The specification clearly states:

> "The product "mature" form arises, again by way of nonlimiting example, as a result of one or more naturally occurring processing steps as they may take place within the cell, or host cell, in which the gene product arises. Examples of such processing steps leading to a "mature" form of a polypeptide or protein include the cleavage of the N-terminal methionine residue encoded by the initiation codon of an ORF, or the proteolytic cleavage of a signal peptide or leader sequence. Thus a mature form arising from a precursor polypeptide or protein that has residues 1 to N, where residue 1 is the N-terminal methionine, would have residues 2 through N remaining after removal of the N-terminal methionine. Alternatively, a mature form arising from a precursor polypeptide or protein having residues 1 to N, in which an N-terminal signal sequence from residue 1 to residue M is cleaved, would have the residues from residue M+1 to residue N remaining." (page 93, lines3-14)

Further, the specification teaches:

> "Signal P, Psort and/or Hydropathy results predict that NOV5 contains a signal peptide and is likely to be localized extracellularly with a certainty of 0.7475. The most likely cleavage site for a NOV5 peptide is between amino acids 19 and 20, at: AAA-EF." (page 38, lines 6-9)

Therefore, Applicants respectfully submit that the meaning of "mature" is clear and requests that the rejection be withdrawn.

Claim 49 is allegedly indefinite for the recitation of "nucleic acid sequence encoding the complement". Claim 49 has been amended herein to clarify what the Applicants regard as their

invention. The Examiner has further alleged that it is unclear whether "complement" is a full or partial complement of SEQ ID NO:11.

Applicant disagrees. In the specification, at page 94, line 33 to page 95 line 3, it says:

> "In another embodiment, an isolated nucleic acid molecule of the invention comprises a nucleic acid molecule that is a complement of the nucleotide sequence shown in SEQ ID NOS:1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39 and 41, or a portion of this nucleotide sequence (*e.g.*, a fragment that can be used as a probe or primer or a fragment encoding a biologically-active portion of an NOVX polypeptide)." Emphysis added.

It is clear that the *complement* of a nucleotide sequence of a specific SEQ ID NO is intended to mean a full length nucleotide sequence comprising the matched base pair at each position of the full length sequence defined by the SEQ ID NO. If anything less than the full length is intended, the specification specifies a complement of a portion of the nucleotide sequence defined by the SEQ ID NO (or fragment or other appropriate term). As such, the use of complement is clear and the rejection should be withdrawn.

Double Patenting

Claim 48 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting in view of claim 23 of US non-provisional application 10/453,372. As claims have not in fact been patented, Applicant understands that no action is required at this time.

CONCLUSION

Applicant respectfully requests that the amendments and remarks made herein be entered and made of record in the file history of the present application. Applicant respectfully submits that this paper is fully responsive and that the pending claims are in condition for allowance. Such action is respectfully requested. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

Wendy L. Davis, Reg. No. 38,427
Agent for Applicants
CuraGen Corporation
Intellectual Property Department
555 Long Wharf Drive
New Haven, CT 06511
Telephone: 203 974-6310
Fax: 203 401-3351

Dated: October 29, 2004